Exploration of Multi-level Teaching of Physical Education in Universities Based on Information Technology

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Abstract: Since entering the information age, various industries have been further developed with the support of information technology, and the field of education is no exception. Since the construction of sports informatization in universities, the widespread application of various educational informatization technologies has promoted the innovation of sports teaching modes and methods. At present, the construction of a multi-level physical education teaching system based on information technology in universities is not only an innovative exploration of traditional physical education teaching work, but also a necessary path to promote the reform of physical education teaching work. Based on this, the article first elaborates on the concept of multi-level teaching, and then analyzes the application advantages of information technology, as well as the importance of implementing multi-level physical education teaching in universities based on information technology. Corresponding suggestions are proposed to mobilize the enthusiasm of college students to participate in physical education learning and exercise, unleash the educational value of sports, and help them shape a sound physical and mental quality.

Keywords: Information Technology; College Physical Education; Multi-level Teaching

Multilevel teaching is a teaching mode that differs from traditional methods of education. It optimizes and improves the teaching process and achieves teaching objectives through diverse teaching content, organization, and methods in accordance with the requirements of the teaching syllabus. The traditional physical education teaching work in universities has fixed teaching content and procedures, and students learn knowledge and train in a step-by-step manner. In this dry learning mode, students' enthusiasm for sports is suppressed, and the quality of teaching cannot be guaranteed. The application of information technology in physical education classroom teaching in universities provides technical support for innovation in teaching work. Therefore, the current research on the construction of multi-level teaching models for physical education in universities based on information technology can not only leverage the advantages of information technology to innovate physical education teaching work, but also stimulate students' interests, strengthen their physical and psychological qualities, and improve the quality of physical education work in universities.

1. Overview of multilevel teaching

The so-called multi-level teaching refers to the classroom teaching in which teachers allow students to have differences and fully consider the differences among students. They design and teach teaching content differently, providing targeted learning guidance for different types of students, so that each student can achieve the best development. Although the traditional classroom teaching system has shown great advantages, its drawbacks are gradually exposed with the modernization of education and teaching work. One of the drawbacks is the "one size fits all" approach to teaching, where teachers design unified teaching content, requirements, and progress for the entire class, and the concept of individualized teaching is not reflected; The second drawback is that although individual teaching incorporates the concept of individualized teaching, there is a problem of low efficiency. Under the traditional classroom teaching mode, whether it is individual teaching, collective teaching, or group teaching, there are many drawbacks[1].The multi-level teaching model is different, which is a comprehensive approach to individual teaching, group teaching, and collective teaching. It mainly focuses on students, advocates promoting strengths and avoiding weaknesses, and organizes group teaching and individual teaching in an orderly manner within the framework of collective teaching. For example, in designing teaching objectives, focus on maximizing the improvement of the entire class of

students; In terms of teaching organization design, comprehensive collective teaching, group teaching, and individual teaching are included; In terms of teaching effectiveness, seek the individual development of students at different levels[2].

2. Application advantages of information technology

In college physical education teaching, the application of information technology has a strong advantage in information resources, which helps to innovate physical education teaching work. Firstly, in terms of information transmission, under the traditional face-to-face teaching mode, a large amount of manpower and material resources are required to provide students with certain sports knowledge. In the context of the rapid development of network technology, teachers can use information technology to obtain and transmit information, reducing the cost of information transmission[3].Secondly, in terms of information quality, the application of internet systems can provide students with a platform for sharing educational resources. Teachers and students can use the internet platform to obtain high-quality educational resources, which can not only improve the teaching level of physical education teachers, but also enhance students' learning efficiency. Once again, in terms of information costs, the existence of shared education can reduce educational costs and alleviate the burden on students. Finally, in terms of information exchange, the emergence of information-based teaching mode has broken through the limitations of one-way mode and provided advantages for interactive teaching. The interactive function of the network has shortened the distance between teachers and students, implementing the student-centered education concept[4].

3. The application value of information technology in college physical education teaching

3.1 Mobilize students' active participation

In previous physical education classroom teaching in universities, although the teaching content was systematic and complete, the entire teaching process lacked consideration for students' needs, often only focusing on the teaching steps and various teaching links, resulting in the physical education curriculum being too serious and lacking in liveliness, ultimately making the physical education classroom atmosphere too dull and difficult to mobilize students' active participation. In college physical education teaching activities, flexible use of information technology means can present dull and tedious physical education knowledge and sports skills in an intuitive way, stimulate students' interest in participating in learning, and enable them to experience the joy and success of physical education learning during the participation process, thereby mobilizing students' initiative and creativity, and enhancing their classroom participation[5].

3.2 Improve the teaching efficiency of physical education courses

At present, the teaching of physical education in universities is based on the foundation of junior high school, leading students to further learn sports skills. However, during the university period, there were many sports projects, and the structure of each project was complex. There were many complex technical activities that needed to be completed in an instant, which is a new challenge for students with poor foundation. During specific teaching, the teacher's understanding of the essentials of the movements, age, physical condition, psychological factors, and other factors have a strong subjectivity and arbitrariness in their demonstration actions. In addition, due to limitations in students' observation perspectives and timing, it is difficult for them to master all the teacher's demonstration processes, which will inevitably affect their learning efficiency. During the implementation of physical education teaching in universities, teachers can use information technology to organize teaching activities through modern educational technology, decompose action essentials through animated demonstrations, demonstrate action processes, highlight key and difficult teaching, shorten the teaching process, and improve the efficiency of physical education curriculum teaching[6].

3.3 Enhance students' sports skills

At present, one of the main tasks of physical education teaching in universities is to help college students master and possess certain sports skills. In the process of implementing this task, if students want to help them master a new action, they need to understand and understand the process of the learned action through listening and watching. Seeing is the source of information for students, and

information technology can help them quickly establish audio-visual representations and effectively help them master motor skills. Information technology means have audio-visual functions. By applying modern information technology means in college physical education classes, students can be guided to learn and master sports skills in new ways, improve the overall learning efficiency of students, and promote the improvement of Student activism 'sports level.

4. The importance of multi-level teaching of physical education in universities based on information technology

Since the new era, with strong national support, China's education work has been further developed, and the higher education education education system has been gradually improved, highlighting the effectiveness of education. As an important component of the higher education system, physical education plays an important role in promoting education. At present, in order to further unleash the educational value of physical education, Chinese physical education educators have begun to explore new directions and models of physical education teaching reform. At present, through theoretical research and practical exploration of physical education educators in colleges and universities in China, and based on the reform of teaching organization level, we have explored the application of multi-level teaching in physical education, and provided theoretical and practical basis for multi-level teaching based on teaching practice. After testing the new education methods, they are progressiveness, reasonable, and effective in educating people. Therefore, in the current stage of physical education teaching in universities, researching a multi-level teaching system based on information technology is not only a demand for the reform of physical education teaching in universities, but also a demand for talents to meet the needs of social development.

5. Multi-level teaching strategies for physical education in universities based on information technology

5.1 Transforming teaching thinking and respecting students' subjectivity

At present, in the context of the information age, the informatization and modernization construction of higher education and teaching work has become an inevitable development trend. In the process of informatization and modernization transformation of physical education teaching in universities, the most crucial task is to update and transform teachers' thinking. Under the trend of educational informatization development, physical education teachers in universities need to understand the methods and applications of information technology in various teaching activities, familiarize themselves with the goals of physical education teaching in the new era, and also understand students' sports level and knowledge foundation, in order to design hierarchical teaching content, guide students to understand sports skills, exercise their physique, hone their minds, and achieve sustainable and healthy development. Therefore, in the new era of educational concepts, physical education workers in universities need to update their own thinking concepts, respect students' subjective status, transform their roles, transform from knowledge imparters to organizers of knowledge learning, and thus put the initiative of learning in the hands of students, comprehensively mobilize their learning initiative, and stimulate their enthusiasm for learning. In specific teaching, with information technology as the foundation and multi-level teaching as the design direction, teachers should play the role of guides in physical education teaching activities.

5.2 Reasonably set teaching objectives based on students' level

In the application of multi-level teaching mode, for the formulation of teaching objectives, it is not only necessary to have uniformity, but also to have certain differences. Therefore, physical education educators should not only comprehensively consider basic technologies, skills, and knowledge, but also consider the breadth of teaching materials, teaching efficiency, theoretical knowledge level, practice level, and depth. Through targeted and comprehensive analysis, scientific teaching objectives should be formulated. Therefore, in the process of carrying out physical education teaching activities in universities, teachers need to formulate corresponding teaching objectives based on certain criteria, such as dividing students into different levels according to their psychological, physical, sports, and physical abilities, and setting teaching objectives in order, namely innovative teaching objectives, developmental teaching objectives, and basic teaching objectives. Firstly, the innovation goal requires students to have a complete understanding of the content they are learning, and to expand and deepen

the scope of the teaching content and syllabus; Secondly, developmental teaching objectives require students to be familiar with the required physical education knowledge and have a certain understanding of the expanded content; The final basic teaching objective requires students to be very familiar with the outline regulations. Because there are many learning tasks involved in physical education courses in universities, the stratification of teaching objectives is not fixed. This requires physical education teachers to prepare for reorganization before class, deeply understand the actual situation of students, and make the design of physical education teaching objectives more targeted, planned, and hierarchical, so that every student can complete the learning objectives and obtain a successful experience.

5.3 Grasp students' basic information through their learning situation

In the field of physical education teaching in universities, the application of multi-level teaching models based on information technology requires physical education teachers to conduct in-depth research on students' learning situation, understand and master the basic situation of each student. Because in the process of organizing physical education teaching activities, students play an important role as the main participants. Due to the differences in learning interests, motivation, and methods among each student, the selection of course types, differences in student situations, teaching content, and venue equipment will all have a certain impact on the organization of physical education teaching activities. Therefore, in the process of using information technology to organize physical education teaching activities, teachers need to pay attention to the hierarchical changes of students, adjust teaching methods in a timely manner, and carry out targeted teaching. In addition, due to the differences in physical education textbooks in universities, there may also be differences in the organizational form of teaching. Even the same textbooks may have differences in organizational form. Therefore, during specific teaching, physical education teachers need to calculate the scores of students at different levels in the previous semester, compare all test scores of this semester, and preliminarily determine the level of students. Then, they need to make a comprehensive assessment of students' physical fitness and sports ability. Looking at students from a developmental perspective, accurately assessing their level, thus laying the foundation for multi-level teaching supported by information technology.

5.4 Reasonably grouping and developing team collaboration relationships

Due to the existence of differentiation, not all students have a solid foundation in sports knowledge. Students have differences in sports skills, personality characteristics, and other aspects, which is also the main reason for implementing multi-level teaching in physical education. Carrying out multi-level physical education teaching is to pursue "seeking common ground while reserving differences", and to maximize individual development on the basis of improving the overall teaching quality. With the practice and development of multi-level teaching models in physical education teaching in universities, many students have also developed their own views on the training of sports projects. Therefore, when facing team cooperation projects, students can also consciously carry out division of labor and cooperation. Therefore, based on information technology research in multi-level teaching of physical education, teachers need to pay attention to cultivating the spirit of teamwork among students in the process of dividing student levels, grouping students according to certain principles, and guiding group members to achieve common improvement and progress in the process of reasonable division of labor, fulfilling their respective duties, and unity and cooperation.

5.5 Increase teaching content to promote students' personality development

The application of information technology has broadened the channels for obtaining physical education resources, enriched physical education resources, and effectively improved the quality of education. The application of information technology provides a rich and diverse teaching content for physical education courses in universities, and with the support of information technology, the collection, organization, and analysis of physical education resources have been achieved, making physical education teaching content more practical and contemporary. Based on the research of multi-level teaching of physical education in universities using information technology, teachers need to use the physical education curriculum as a basis and select open learning content from rich teaching resources to make up for the knowledge deficiencies in physical education textbooks. At the same time, when organizing students to participate in sports activities, physical education teachers need to flexibly use information technology, leverage the advantages of internet resource acquisition, collect a large

amount of teaching content in a short time, and combine multi-level teaching design to integrate and layer the teaching content, so as to keep the teaching content consistent with the teaching objectives and better meet the physical education learning needs of college students.

5.6 Innovative teaching mode to stimulate students' enthusiasm

The application of modern educational technology has not only improved the quality of physical education teaching, but also diversified the presentation of teaching content, enhanced interaction and communication between teachers and students, and created a more harmonious classroom learning atmosphere, enabling the smooth implementation of multi-level teaching models. Taking the application of online classrooms as an example, in the process of physical education teaching activities in universities, physical education teachers use internet platforms to organize learning. Teachers first upload teaching content to the online learning platform, and students use terminal devices such as mobile phones and computers to preview teaching content. During the preview process, students need standard questions or leave messages in the discussion area. Physical education teachers collect and organize students' existing problems, Provide detailed answers in class to enhance the relevance of classroom teaching. At the same time, teachers design different teaching plans for students' problems in physical education classrooms, providing corresponding learning plans for students at different levels, and enhancing teaching effectiveness. Taking the teaching of table tennis as an example, when teachers guide students to learn a certain serving technique, they will require students to serve from a specific angle. The teacher will shoot a video of the students' serving process and reproduce it in the form of a video, leading students to analyze the problems involved. Alternatively, teachers can use Dartfish software to lead students in comparing and analyzing serving videos of professional athletes and students, understand serving skill templates, and stimulate students' enthusiasm and enthusiasm for participation.

5.7 Gradually improving the evaluation system and optimizing the effectiveness of graded teaching

In the process of physical education teaching in universities, teachers can use information technology to optimize the multi-level teaching assessment and evaluation system, enhance the fairness and objectivity of assessment and evaluation. The assessment and evaluation system is an important part of guiding physical education teaching work. However, in traditional teaching, too much emphasis is placed on the assessment of theoretical knowledge, which weakens students' practical enthusiasm. Therefore, in the process of combining information technology with physical education teaching in universities, it is necessary to highlight the application of information equipment in the assessment and evaluation of physical education teaching. Taking volleyball teaching as an example, the core evaluation elements are basic skills, competition rules, practical training, etc. Therefore, when evaluating, teachers need to adhere to the examination of basic theories while requiring students to master corresponding practical skills. At the same time, in order to ensure the fairness of assessment and evaluation, teachers also need to use information technology equipment to optimize the details of the assessment, in order to provide a basis for teachers to objectively evaluate students. For example, the edge ball often appears in volleyball, which is prone to misjudgment when viewed from a long distance. High speed cameras can be used to shoot and analyze frame by frame to help students understand the edge ball problem, accurately grasp the game rules, and help students correct their shortcomings in practical operation evaluation, improving their practical skills.

6. Conclusion

In summary, in the reform of physical education teaching in universities, researching multi-level teaching models based on information technology can not only enrich teaching content, but also innovate teaching methods and promote the optimization of physical education teaching in universities. With the infiltration and application of modern teaching concepts in college physical education teaching, as well as the flexible adjustment of college physical education teaching work, the high-quality development of college physical education teaching supported by information technology has been achieved. Therefore, physical education teachers in universities need to update their work philosophy, respect the dominant position of students, innovate teaching models with the help of information technology, formulate scientific and clear teaching objectives, highlight the pertinence and planning of physical education teaching activities, and at the same time, judge the level of students based on their basic situation, reasonably increase teaching content, and improve evaluation

mechanisms to build a comprehensive multi-level teaching system, Improve the level of physical education teaching in universities.

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